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CLAIMS

1. A method of producing ozone comprising the steps of generating intermittent bursts of corona discharge in an electrode region, and  
5 passing oxygen-containing fluid through the region, thereby to cause ionization of the oxygen.
2. A method as claimed in claim 1 wherein the intermittent bursts are generated by generating a changing electric field in the region by  
10 energising the electrode with intermittent voltage pulses having a slope of at least 2kV/100ns, the field having a peak value of at least 2kV per millimetre.
3. A method as claimed in claim 2 wherein the peak value is at least 3kV  
15 per millimetre and the slope is in the order of 3kV/10ns.
4. A method as claimed in claim 2 or claim 3 wherein each voltage pulse has a pulse width of less than 100ns.
- 20 5. A method as claimed in any one of the preceding claims wherein the bursts are discrete bursts.
6. Apparatus for producing ozone comprising:

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- a housing defining a passage for a fluid comprising oxygen;
  - an electrode disposed adjacent the passage; and
  - pulse generating means connected to the electrode,
  - the pulse generating means being operative to generate a
- 5 changing electric field by generating a train of voltage pulses  
each having a slope of at least 20kV/100ns.

7. Apparatus as claimed in claim 6 wherein the electric field has a peak
- 10 value of at least 3kV per millimetre.

8. Apparatus as claimed in claim 6 or claim 7 wherein each voltage pulse
- has a pulse width of less than 100ns.

9. Apparatus as claimed in any one of the preceding claims wherein the
- 15 pulse generating means comprises a self-oscillating circuit.

10. Apparatus as claimed in claim 9 wherein the self-oscillating circuit
- comprises a field effect transistor (FET) and a switch circuit therefor, the
- switch circuit comprising charge storage means; switching means
- 20 connected between the charge storage means and a gate of the FET;
- the switching means being operative to deposit charge from the storage
- means onto the gate, thereby to improve a rise time of a signal in a

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drain-source circuit of the FET.

11. Apparatus as claimed in claim 10 wherein the charge storage means comprises a capacitor and the switch means comprises a SIDAC.

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12. Apparatus as claimed in claim 10 or claim 11 wherein the electrode is connected to a secondary winding of a transformer, a primary winding of the transformer being connected in the drain-source circuit of the FET.

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13. Apparatus as claimed in any one of claims 6 to 12 wherein the passage extends between an inlet to the housing an outlet therefrom.

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14. Apparatus as claimed in any one of claims 6 to 13 wherein the electrode is an annular electrode disposed in the housing and wherein the passage extends through a clearance defined between the electrode and an annular ridge in the housing.

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15. Apparatus as claimed in claim 14 wherein the housing is a metal housing, wherein the housing is also connected to the secondary winding of the transformer and wherein an insulating carrier for the electrode is disposed between the electrode and the ridge.

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16. An apparatus as claimed in claim 14 wherein the housing is of an electricity insulating material, wherein the electrode is disposed circumferentially on the outside of the housing and wherein a second electrode also connected to the secondary winding is provided spaced from an inner wall of the housing, to define the passage between the second electrode and the inner wall.

17. A method of producing ozone, the method comprising the steps of:

- generating a changing electric field in an electrode region; the field having a peak value of at least 2kV per millimetre;
- generating the electric field by energizing the electrode with intermittent voltage pulses having a slope of at least 2kV/100ns; and
- passing oxygen-containing fluid through the region.

18. A method of producing ozone substantially as herein described with reference to the accompanying diagrams.

19. Apparatus for producing ozone substantially as herein described with reference to the accompanying diagrams.